

**THIS OPINION WAS NOT WRITTEN FOR PUBLICATION**

The opinion in support of the decision being entered today  
(1) was not written for publication in a law journal and  
(2) is not binding precedent of the Board.

Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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**Ex parte** KURT M. THALLER  
and  
EUGENE SMITH

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Appeal No. 1997-2652  
Application 08/385,509<sup>1</sup>

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ON BRIEF

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Before MARTIN, FLEMING and GROSS, **Administrative Patent Judges**.

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<sup>1</sup> Application for patent filed February 8, 1995.

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FLEMING, *Administrative Patent Judge*.

### ***DECISION ON APPEAL***

This is a decision on appeal from the final rejection of claims 1, 3 through 7, and 10 through 13, all the claims pending in the present application. Claims 2, 8 and 9 have been cancelled.

The invention relates to a printed circuit board. In particular, Appellants disclose on page 3 of the specification that problems arise when a printed circuit board needs modification. For example, a modification may be necessary to correct a problem with a component on the printed circuit board by adding another component. On page 5 of the specification, Appellants disclose that they have solved this problem by providing a first circuit board and a second circuit board. The first printed circuit board comprises a first electrical circuit component on a first side of the first printed circuit board. The first electrical circuit component has one or more pins that pass through one or more corresponding holes in the

first printed circuit board. Each of the pins protrudes from an opposite side of the printed circuit board. A second printed circuit board has one or more holes and is mounted directly to the opposite side of the first printed circuit board. The pins of the first electrical circuit component protrude through at least one of the holes

of the second printed circuit board. The second printed circuit board has one or more electrical circuit components connected to the first electrical circuit component. On page 10 of the specification, Appellants disclose that figure 1B shows that an electrical circuit component 12 is disposed on one side of the first printed circuit board 10. The electrical circuit component 12 has pins 16 that pass through holes in the first printed circuit board and protrude from these holes to the opposite side of the first printed circuit board. The pins pass through holes in the second printed circuit board 18 which have additional electrical circuit components needed for the modification.

Independent claim 10 is reproduced as follows:

10. An apparatus comprising:

a first printed circuit board supporting a plurality of electrical components, a first one of said plurality of electrical components being mounted on a first side of said first printed circuit board, said first printed circuit board having holes therein, said first electrical circuit component having one or more pins each passing through one of said holes in said first printed circuit board and each protruding from an opposite side of said first printed circuit board;

a second printed circuit board having one or more holes and being mounted to said opposite side of said first printed circuit board with said one or more pins of said first electrical component protruding through at least one of said holes in said second printed circuit board, said second printed circuit board being vertically in alignment with said first electrical component and being comparably smaller in length and width than said first printed circuit board.

The reference relied on by the Examiner is as follows:

Damon  
1975

3,891,898

June 24,

On page 2 of the Examiner's answer, the Examiner states that claims 1 and 3 through 7 are allowed for the reasons that the device has a second printed circuit board being mounted directly to the opposite side of the first printed circuit board, the second printed circuit board being mounted solely by having the pins protrude through at least

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one of the holes of the second printed circuit board. Thus, claims 10 through 13 stand rejected under 35 U.S.C. § 102 as being anticipated by Damon.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the briefs<sup>2</sup> and answer for details thereof.

#### ***OPINION***

After a careful review of the evidence before us, we do not agree with the Examiner that claims 10 through 13 are anticipated by Damon.

It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim. ***See In re King***, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986) and ***Lindemann***

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<sup>2</sup> Appellants filed an appeal brief on October 21, 1996. Appellants filed a reply brief on December 16, 1996. The Examiner mailed a communication on January 22, 1997 stating that the reply brief has been entered and considered but no further response by the Examiner is deemed necessary.

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***Maschinenfabrik GMBH v. American Hoist & Derrick Co.***, 730 F.2d  
1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984).

Appellants argue on pages 12 and 13 of the brief  
that Damon does not teach an apparatus comprising:

. . . ***a first printed circuit board***  
supporting a plurality of electrical  
components, a first one of said plurality  
of electrical components being mounted on a  
first side of said first printed circuit  
board . . . having holes therein, said  
first electrical component having one or  
more pins each passing through one of said  
holes in said first printed circuit board  
and each protruding from an opposite side  
of said first printed circuit board. . . ;  
and

. . . ***a second printed circuit board***  
having one or more holes and being mounted  
. . . with said one or more pins of said  
first electrical component protruding  
through at least one of said holes in said  
second printed circuit board, said second  
printed  
circuit board being vertically in alignment  
with said first electrical component and  
being comparably smaller in length and  
width than said first printed circuit board  
[emphasis added].

Appellants argue that Damon does not teach a first printed  
circuit board and a second printed circuit board as recited in  
Appellant's claim 10.

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On pages 1 through 3 of the reply brief, Appellants argue that Damon's board 11 is not a printed circuit board. Appellants argue that the ordinary definition of a printed circuit board is defined in the *Dictionary of Computing* (Oxford University Press, Third Edition, 1990) as follows:

A physical realization of an electronic circuit design in which the connections between the terminals of individual components are formed from copper conductors laminated onto a flat supporting sheet of insulating material such as fiber glass. The conductor pattern is normally printed and etched onto the sheet and components are then attached to the copper "lands" by hand or dip soldering.

Appellants argue that the wire wrapping Damon's board 11 is distinguishable from a printed circuit board as claimed by Appellants in claim 10.

Our reviewing court states in *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) that "claims must be interpreted as broadly as their terms reasonably allow." Moreover, when interpreting a claim, words of the claim are generally given their ordinary and accustomed meaning, unless

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it appears from the specification or the file history that they were used differently by the inventor. ***Carroll Touch, Inc. v. Electro Mechanical Sys., Inc.***, 15 F.3d 1573, 1577, 27 USPQ2d 1836, 1840 (Fed. Cir. 1993). Although an inventor is indeed free to define the specific terms used to describe his or her invention, this must be done with reasonable clarity, deliberateness, and precision. ***In re Paulsen***, 30 F.2d 1475, 1480, 31 USPQ 1671, 1674 (Fed. Cir. 1994).

The Examiner argues that the ordinary definition of printed circuit board is found in the Patent and Trademark Office's (PTO) classification definition which states: "an insulating panel wherein conductors are applied thereto by coating, laminating, or bonding in such a manner that the conductors are permanently attached to the panel." The Examiner argues that by this definition, which is broader than the Appellants' dictionary definition, Damon's board 11 is a printed circuit board.

We fail to agree with the Examiner that the definition found in the PTO classification definition can be

viewed as the common ordinary meaning of a printed circuit board. First, the PTO classification definition is for use by Examiners to determine only where a patent application should be classified and is not an ordinary meaning used by the public for determining a definition. Therefore, we find that the definition of printed circuit board, as defined in the ***Dictionary of Computing***, is the ordinary and accustomed meaning for the term "printed circuit board" as argued by Appellants.

Turning to Damon, we find that Damon discloses that the second board shown in figure 3 is a printed circuit board. See column 4, lines 49 through 66. In addition, we find that Damon discloses that the first circuit board is a laminated board made of three conductive planes 12, 13 and 14 separated by dielectric layers 15 and 16 as shown in figure 1. See column 3, lines 19 through 39. We further find that Damon does teach in figure 1 that the panel board 11 has connections between the terminals of individual components (pins 22) which are formed from a copper conductor (conductive planes 12, 13, 14) laminated onto a flat supporting sheet of insulating

material (dielectric layers 15 and 16). Furthermore, we note that Damon shows that the conductive layer 14 is shaped to connect certain pins (e.g. 24) and not other pins (e.g. 21). Therefore, we find that Damon's panel board 11 meets Appellants' claimed "first printed circuit board" as defined by Appellants' argument in the brief and reply brief.

Appellants argue on pages 10 and 13 of the brief that the Damon wire wrapping pins 17 which passed through the holes 36 in the substrate 35 and extend through the wire wrap board 11 do not suggest the pins of the first electrical component which pass through a first and second printed circuit board as recited in Appellants' claim 10. Appellants further argue on page 5 of the reply brief that the pins in Damon's arrangement are not pins of an electrical component but rather are wire wrapping pins.

We note Appellants' claim 10 recites "first electrical circuit component having one or more pins each

passing through one of said holes in said first printed circuit board and each protruding from an opposite side of said first printed circuit board." In column 3, lines 22 through 25, Damon teaches that figure 1 shows a wire wrapping pin 17 mounted in board 11 having socket ends 21 extending through conductive layer 14 on the opposite side of the board from the projecting pins. Damon further teaches in column 3, lines 25 through 27, that the wire wrapping pins of this configuration may be referred to as socket pins. In column 3, lines 58 through 60, Damon teaches that figure 4 is a greatly enlarged sectional view showing a portion of one row of pins 17 as they appear in a complete structure. We note that figure 4 clearly shows the socket portion of the

component protruding through panel board 11 with the pin extending from the socket portion. Therefore, we fail to find that Damon teaches a first electrical circuit component having one or more pins passing through one of the holes of said first printed circuit board since the Damon electrical circuit

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component is the socket that passes through the hole.  
Therefore, we find that Damon fails to teach all limitations  
recited in Appellants' claims 10 through 13.

In view of the foregoing, the decision of the  
Examiner rejecting claims 10 through 13 is reversed.

***REVERSED***

	JOHN C. MARTIN	)	
	Administrative Patent Judge	)	
		)	
		)	
		)	BOARD OF
PATENT		)	
	MICHAEL R. FLEMING	)	APPEALS AND
	Administrative Patent Judge	)	
INTERFERENCES		)	
		)	
		)	
	ANITA PELLMAN GROSS	)	
	Administrative Patent Judge	)	

MRF:psb

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